

# THE INITIAL COLONISATION OF THE YAMUNA FLOOD PLAIN BY THE SIND SPARROW *PASSER PYRRHONOTUS*<sup>1</sup>

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(With two text-figures and one plate)

**Key words:** *Passer pyrrhonotus*, Sind sparrow, *Acacia nilotica*, Haryana, canal, colonisation

The Sind sparrow *Passer pyrrhonotus* appears to be spreading out of its traditional range in the Indus Basin in Pakistan and extreme northwest India. Birds were found in twelve sites near canals in eastern Haryana and north Delhi during January–August 2001 and successful breeding was first proved in June. Details of the sightings, observed habits and nesting are given with descriptions of the plumage

## INTRODUCTION

The Sind sparrow *Passer pyrrhonotus* was largely restricted to the Indus flood plain in Pakistan and its tributaries just extending into Punjab, in India. It was first described in 1844, but then lost to ornithologists until 1880. It took a further 50 years for it to be fully accepted as a full species; many earlier writers considered it to be a sub-species of the house sparrow *Passer domesticus* (Summers-Smith 1988). The SYNOPSIS (Ripley 1982) describes its range as “the plains of the Indus from Nowshera (c. 34 °N), the Jhelum district, Gurdaspur, Ferozepore and Ludhiana ... south to Sadhani, Hyderabad (c. 25 °N) and the Nara canal in Sind.” Summers-Smith (1988) gives more detail for its Indian range; “into the Indian Punjab on the Beas river near Gurdaspur and along the Sutlej to Ladhawai (10 km north of Ludhiana)” and “found it regular along the Sutlej from Harike, east to the bridge on the main road between Ludhiana and Jullunder (Jalandhar), but not further upstream at Rupar.” There are old records from Baluchistan and neighbouring Iran (Summers-Smith 1988). Bapat (1993) records sightings in

1990 from Khari Nadi, c. 3 km west of Bhuj in Kutch, Gujarat, but gives very little detail. With our present knowledge of range and habitat requirements, this report requires substantiation. Apparently, the species has had a restricted range since it was discovered, with only circumstantial evidence of even short distance migrations. It is reportedly locally common within its range, but decidedly restricted to aquatic environments with trees, particularly the banks of large canals and rivers. This dependence on trees by or in water seems consistent, and claims for the species in other habitats need to be reviewed with great care.

## First recorded occurrences in the Yamuna flood plain in 2001

SCS has birdwatched in Haryana for over 25 years. He has focused particularly on the waterways and marshes. On January 3, 2001 he found a male and two female Sind sparrows in a babul tree (*Acacia nilotica*) along the village road between Chitana and Juan villages (15 km north of Sonipat), about 100 m from the Delhi canal. He had never encountered this species before in Haryana. On February 21 and 23, 2001 he found a flock of eight birds (three males and five females), again in babuls, near the village of Rohat, 8 km south of Sonipat, on the banks of the Delhi canal. He saw about the same number,

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at the same location, on March 11 and 31, and three birds on April 6 and 22. On April 8, he found a male near Mohamedabad village, 11 km south of Sonipat, on the Delhi canal banks. At the same site, he observed a mating pair in the first week of May and a male on June 3. Thus, three sites within 26 km in Sonipat district held around 15 individuals, from January-June 2001.

In addition, SCS briefly saw one male accompanied by a possible female at the Bhindawas Sanctuary 80 km west-southwest of Delhi on April 22, 2001. This represents a considerable range extension from the Sonipat area. It is probably significant that both the Jawaharlal Nehru Feeder canal, which is connected with Bhindawas Lake via an escape channel, and the Delhi canal originate from the Western Yamuna canal at Sardhana Water Regulator in the Sonipat district. The Sardhana regulator is nearly 25 km north of Sonipat.

#### **Evidence of colonization of the Yamuna flood plain in 2001**

On May 13, Bill Harvey (WGH) joined SCS and others to visit his Sonipat sites. At the Mohamedabad site, at least five individuals were seen and a nest located about 3 m high near the trunk of a babul. This nest was still active on May 15, but on May 20 it was deserted. However, its discovery prompted new efforts. After negative results along several kilometres of the Najafgarh drain on May 15, WGH found a singing male at Bhindawas on June 14 and a colony of at least eight active nests, with 11 males and 6 females, on the edge of an incipient water bird colony on an island in the lake, on June 15. On June 28, Nikhil Devasar (a bird watcher from Delhi) and WGH visited the site again to take photographs. They found around 30 birds, half of which were newly fledged juveniles. There were also about ten adult males and five females, some of which were associated with four new nests. The colony probably held a minimum of 10-12 breeding pairs

(the active heronry, which occupies two-thirds of the babuls on the island, was not examined to avoid disturbance, so the total could be two or three times that). Thus, in 2001 we obtained evidence for the first time that young Sind sparrows fledged successfully in Haryana.

SCS found the first birds in Delhi region on June 23, with a male and two females in a babul on the Delhi canal bank between Harewali and Jhinjholi villages. At one of the original sites (Juan) he found four nests and associated birds within 100 m of the Delhi canal on June 24. On June 26, 2001, SCS found individuals at two different locations along the JLN Feeder Canal, again on babuls. The latter two locations are at least 30 km northwest of Sonipat and about 15 km apart. One was in Sonipat district and the other was in Rohtak district. New nest sites were found at Tehri on the JLN Feeder Canal (2 nests) on July 3, Kakroi (5 nests) on July 6 and Fatehpur (1 nest) on July 14. On July 29 and August 12, up to 5 birds were found along the Delhi Canal near Garhi Bala. Thus, the species has been recorded in twelve separate places in Haryana State and the Delhi region, with nests located at six of them, and at least 50 individuals, excluding fledged young. This suggests that colonisation is established and records from further sites near the canals and other waterways can be expected. The distribution of these new sites is indicated in Fig. 2.

The current and historical distributions as on August 31, 2001 are indicated in Fig. 1.

#### **Field Descriptions**

Although the descriptions of this species available in various field guides are generally accurate, we did observe additional features. No individual variation has been noticed within the sexes. The species is usually initially identified by its subtly different voice, although visual features are striking in males at least, if every sparrow is examined. The species is not, in our

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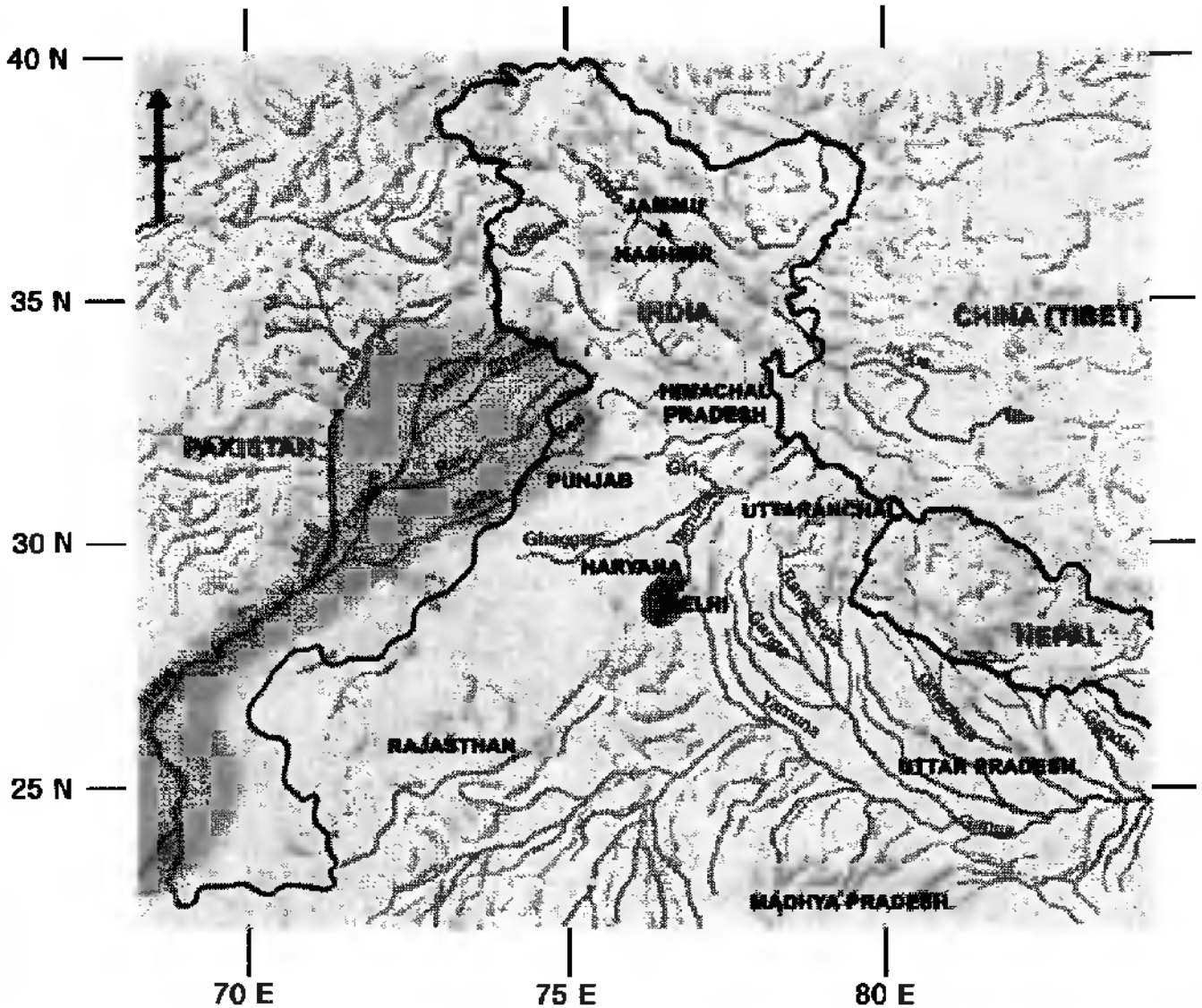


Fig. 1: The world range of the Sind sparrow (light grey) and the area of new colonisation (dark grey)

view, obviously smaller than all house sparrows (often seen with or near Sind sparrows), but it is certainly slimmer, smaller headed and perhaps longer tailed. The bill is neater than that of a house sparrow with a finer, more pointed tip.

The male has a distinctive, quite high-pitched and “rocking” song *chitta chitta chitta*, which is distinct from the chirruping song of house sparrows. Both sexes have a soft *cheep cheep* call, not markedly different from that of house sparrows but quieter. The call and the song are interspersed with a quite distinct, repeated *tswep tswep* call reminiscent of a white wagtail *Motacilla alba*.

The males have a dove-grey forehead, crown and nape; paler grey on the collar and cheeks, contrasting with fairly broad sweeping stripes, from the eyes to half way round the cheeks, which are a distinct bright, russet chestnut, paler and brighter than the similar markings on male house sparrows. The mantle is rich brown with both darker and paler feather edgings, and merging into a distinctly brown back and rump, which in turn merges into narrow, grey upper tail coverts (in contrast to a male house sparrow which has the whole back, rump and upper tail coverts distinctly grey). The lesser coverts are distinctly chestnut and there

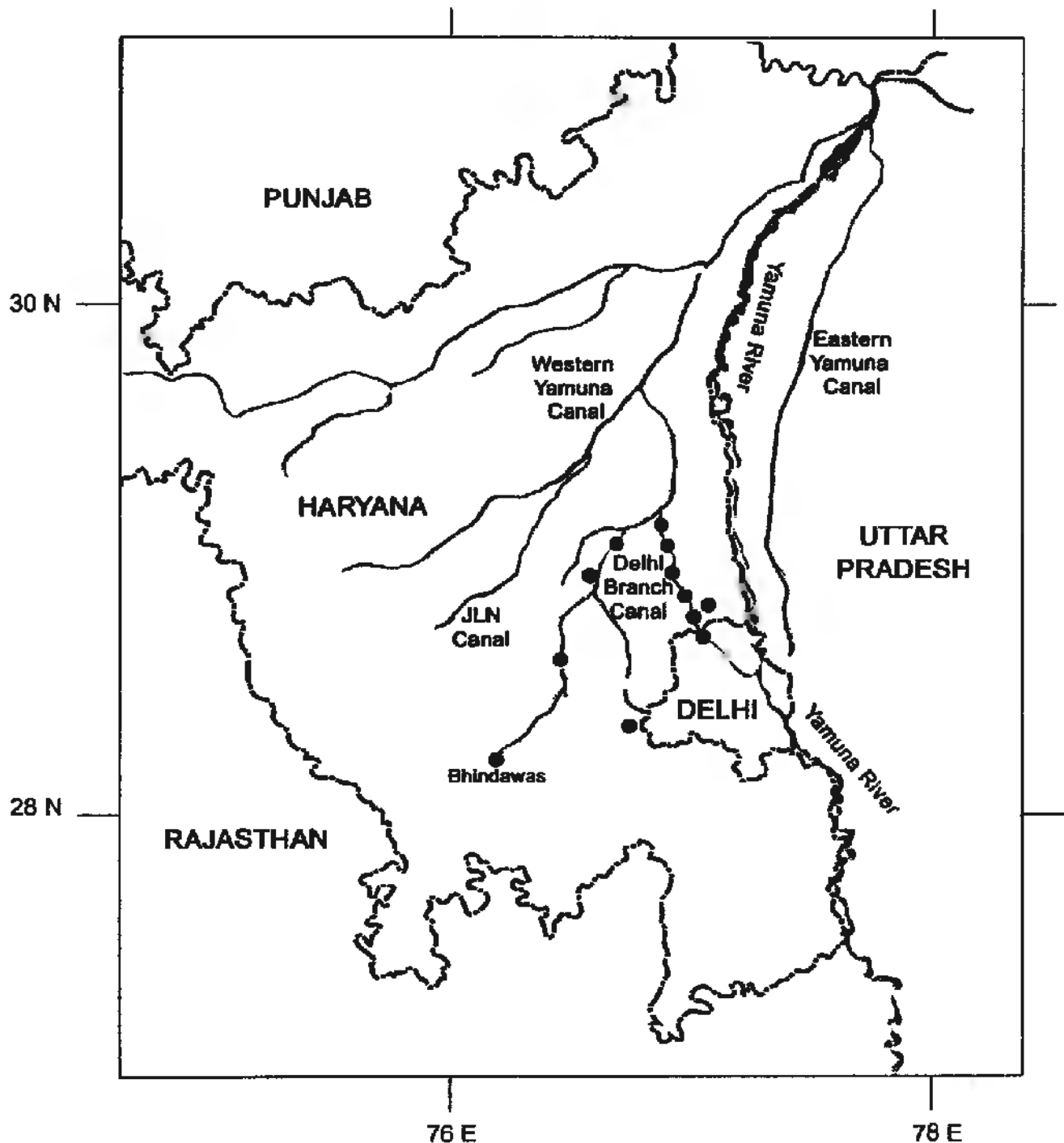


Fig. 2: The Haryana sites (●) of the Sind sparrow showing their proximity to canals and drains

are obvious white tips to the median coverts, adding to the bird's overall bright appearance.

The cheeks are uniform pale grey, merging with limited or no contrast into a grey throat, breast and belly (most published illustrations

show a strong contrast between the cheeks and the underparts, but this is not always obvious in the plumages we have been observing). The distinctive black bib is quite long and narrow with straight, clean-edged sides (thus rather



NIKHIL DEVASAR



Fig. 1: Male Sind sparrow removing material from old nest to construct new one

NIKHIL DEVASAR



Fig. 2: Female Sind sparrow



rectangular in shape) and quite unlike the round bib (whether small or large and blotched) of male house sparrows of any age. It is not the size of the bib that is important for identification, but the shape. The bills in May-June at least have all been blackish, indicating breeding condition.

The female, although superficially like a female house sparrow, is more distinctive than the field guides suggest (Plate 1, Fig. 2). The broad sweeping pale whitish supercilia run back from the eyes and contrast much more with the plain, pale brown crown and very distinct concolorous grey cheeks. These, unlike in the male, contrast quite markedly with the more house sparrow-like buffish-white throat, breast and belly. The other striking feature is the distinct pale chestnut lesser wing coverts, very similar to those of yellow-throated sparrow *Petronia xanthocollis*. The bill is greyish horn on the upper mandible and yellow on the lower.

The juveniles are similar to the females, but with obvious yellow gapes and fresh plumage. Young males had started developing the male head markings in late June (within two weeks of fledging at most).

### Habits

Almost all observations have been of birds calling and/or singing in babul trees. Birds have frequently been observed picking food off babul leaves (or even, perhaps, eating the young leaves) and twice apparently feeding on the ground. A female has been observed feeding on a babul trunk in the manner of a tit (*Parus*). Birds have been seen collecting dry grass from the ground and feathers (from other birds' nests) in the course of nest building, and flying into reed-beds, perhaps with the same purpose. Eucalyptus and other tree species have been used as perches, but the dependence on babuls seems quite marked. There also seems to be a need to be within easy reach of reasonably natural wet grassland and reeds. Groves of babuls on canal banks, with no

such marshland vegetation close by (as at Najafgarh) do not seem to be sufficient. As yet, we have only limited observations on their feeding habits and most prolonged observations have been at nest sites.

### Nesting

All nests found (25 to date) have been in babul trees. The nest is untidy, oval or semi-oval, made of dry, yellowish grasses (often intermingled with feathers) and lined with finer grasses and feathers. The entrance hole is a quarter way down from the top. It resembles a house sparrow's nest built in the open. Both sexes contribute to the building, although the males spend much time singing and calling while perched close to the nest. In Bhindawas, it was thought that the females were inside incubating or brooding in some cases. All the Sonipat area nests were "free-standing" and close to babul trunks in thick foliage (made so by pruning for fodder). Two nests were in one tree, but the other three were in their own trees.

Nine of the nests at Bhindawas were in the base of other birds' nests. We can find no reference to such breeding sites in the literature, although Summers-Smith (1988) mentions that Jones (1912) recorded them breeding in the old nests of baya weavers *Ploceus philippinus*. The old egret nests at Bhindawas provided the roof and the nest shape was less domed as a result. Seven were in old, probably egret, nests and two were in the base of nests of Asian pied starlings *Sturnus contra*. The starlings may still have occupied one of these nests, as one bird constantly visited and sat on top of the nest, calling. It did not enter the nest, however. This may have been no more than an interest in the new tenants. Two nests were free standing (as in the Sonipat area) and one was built on top of an old (probably egret) nest. A male was observed taking dry grasses from a much reduced used nest, from which young had recently fledged, and contributing



them to a new free-standing nest, presumably for a second brood.

Each nest was in its own babul, 4-5 m above the ground in the canopy. The trees occupied were 10-20 m apart, so that all the calling and singing males were audible to each other. No interactions between different pairs were observed at Bhindawas during the two short visits. However, at the first nest found on May 13 near Mohamedabad, the nesting pair determinedly drove off other Sind sparrows that landed in the nest tree.

#### DISCUSSION

Circumstantially, the evidence is that the Sind sparrow only colonised parts of Haryana (and Delhi) in 2001, but it has to be admitted that knowledge of the species and coverage of the area has always been extremely limited. It is feasible that colonisation has been progressing for a number of years and it may be that 2001 saw its first consolidation, thus making the species more obvious. But it is still extremely scarce and local everywhere. SCS has been very active in Haryana for many years, and it seems likely that the records from his area (and north Delhi) since January 2001 are genuinely new. In Bhindawas, given the generally inaccessible and inaudible nature of the colony (a wade through nearly 1 m of mud and water is required during the monsoon breeding season, and the birds are usually only audible from the bund at daybreak), it is possible that they have been overlooked by the infrequent birding visitors. SCS visited Bhindawas regularly from 1985-91, so any colonisation is likely to have begun after that date.

Whatever the date of the initiation, and we are certainly talking of the 1990s at the earliest. In a relatively short time, the Sind sparrow, a

hitherto largely sedentary and localized species, has crossed a major geographical divide and successfully established a breeding population. The main route into Haryana was probably the Western Yamuna Canal, which divides into the Delhi and Jawaharlal Nehru Feeder Canals at Sardhana. All records to the end of August 2001 have been along or close to these two canals and their link canals. This may have involved crossing no more than a 100 km gap from the upper Sutlej to the Yamuna flood plain, most likely in the region of Ludhiana. Thus, the intricate system of canals, feeders and drains in the Punjab and Haryana has enabled the species to spread because of the eminently sensible practice of planting native babul trees along the bunds to stabilise the soil. Apart from the proximity of water, the major constant in the Sind sparrows' ecological requirements appears to be the babul tree.

Fig. 2 shows the main arteries of the system and the way they connect the established and new sites of the Sind sparrow in India. The species, if it continues to prosper, is on the threshold of the whole Gangetic system. It will be interesting to see if it takes advantage of the great waterways and their tributaries; or whether climatic and other ecological limitations hinder its spread much further. We need to find out much more about the species' diet, social structure, breeding regime and habitat requirements. But it remains a delightful and much underestimated species, well able to co-exist with the house sparrow (its erstwhile, claimed conspecific), and clearly on the move

#### ACKNOWLEDGEMENT

We are grateful to Dr. Asad Rahmani for encouraging us to write this paper and for commenting constructively on the initial draft.



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